

# PATENT COOPERATION TREATY

# PCT

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 05918-336WO1	<b>FOR FURTHER ACTION</b>	
International application No. PCT/US 03/26221	International filing date (day/month/year) 20.08.2003	Priority date (day/month/year) 20.08.2002
International Patent Classification (IPC) or both national classification and IPC E04F13/08		
Applicant VELCRO INDUSTRIES B.V. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of 9 sheets.

3. This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  05.02.2004	Date of completion of this report  07.09.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89.2399 - 4465	Authorized Officer  Bouyssy, V  Telephone No. +49 89 2399-2073  

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US 03/26221

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, Pages

2-16 as originally filed  
1 filed with telefax on 15.07.2004

### Claims, Numbers

1, 2, 3, 10, 11, 12, 16-23, 29, 31 filed with telefax on 15.07.2004

### Drawings, Sheets

1/4-4/4 filed with the demand

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
  - ☐ the language of publication of the international application (under Rule 48.3(b)).
  - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
  - ☐ filed together with the international application in computer readable form.
  - ☐ furnished subsequently to this Authority in written form.
  - ☐ furnished subsequently to this Authority in computer readable form.
  - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☒ the claims, Nos.: 4-9, 13-15, 24-28, 30
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-3, 10-12, 16-23, 29, 31
	No: Claims	
Inventive step (IS)	Yes: Claims	1-3, 10-12, 16-23, 29, 31
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-3, 10-12, 16-23, 29, 31
	No: Claims	

2. Citations and explanations

**see separate sheet**

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EXAMINATION REPORT - SEPARATE SHEET**

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1. The following prior art documents have been considered:

D1: GB1376262 A  
D2: US6413335 B  
D3: DE4228597 A  
D4: WO0079073 A  
D5: DE42708U  
D6: US3475810 A  
D7: GB1546901 A  
D8: US3817015 A  
D9: US4649069 A  
D10: US4744189 A  
D11: US4810546 A  
D12: US4822658 A  
D13: US4974384 A  
D14: US5042221 A  
D15: US5060443 A  
D16: US5191692 A  
D17: US5482755 A  
D18: US6298624 B  
D19: US6306477 B  
D20: US6342285 B  
D21: US5260015 A  
D22: US5441687 A  
D23: US6035498 A

**NOVELTY AND INVENTIVE STEP (ARTICLE 33 (2) AND (3) PCT)**

2. The subject-matter of any of claims **1-3, 10-12, 16-23, 29** and **31** is novel and involves an inventive step:
- 2.1 D5 discloses a material 2
- a) for covering a wide, rigid surface of a home or building.
- 2.2 The subject-matter of claim 1 differs from this known material in that

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EXAMINATION REPORT - SEPARATE SHEET**

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- b) the material (100) is in the form of a flexible laminate having
- c) a fastening side comprising a sheet-form fastener component with hook-engageable loops defined by a knit or non-woven web material (12) having a basis weight of less than about 4 ounces per square yard, and
- d) an opposite side formed by a sheet of paper (9) laminated to the fastener component, such that the laminate has significantly greater stiffness in the plane of the laminate than the knit or non-woven web material without the sheet of paper, yet is sufficiently flexible to be rolled up for storage and transport.

Hence, the subject-matter of claim 1 is novel (article 33 (2) PCT).

2.3 The problem underlying the invention is to provide a lightweight and inexpensive material that nevertheless provides a dimensional stability necessary to secure objects over broad surfaces.

2.4 The solution in claim 1 is neither known from, nor rendered obvious by, the available prior art.

D3 discloses a material A for covering a building wall, the material having a back side 5 for adhering to a building wall and a fastening side comprising a sheet-form fastener component 7 with hook-engageable loops defined as a fleece material. There is no hint in D3 of employing a paper backing on the loop material, or of using a lightweight loop material with a basis weight of less than about 4 ounces per square yard. There is no mention that the loop material is in need of increased dimensional stability.

D21 teaches that laminated hook fasteners can be used for holding down floor coverings to floors and discloses methods of laminating paper directly to a moulded plastic hook sheet during the moulding process, to reduce cost and also to increase the overall flexibility of the laminate. There is no hint in D21 of using a lightweight loop material defined by a knit or non-woven web material. The need for increased dimensional stability is not addressed in D21.

Hence, the subject-matter of claim 1 involves an inventive step (article 33 (3) PCT).

2.5 Claims 2-3, 10-12, 16 and 17 are dependent on claim 1 and therefore their subject-matter is novel and involves an inventive step.

2.6 Independent claim 18 is directed to a method of securing an object over a broad, rigid surface of a home or building, wherein a female touch fastening material with the features of claim 1 is placed

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against the broad surface.

For the reasons set above, its subject-matter is novel and involves an inventive step.

- 2.7 Claims **19-23, 29** and **31** are dependent on claim **18** and therefore their subject-matter is novel and involves an inventive step, too.

**INDUSTRIAL APPLICATION (ARTICLE 33 (4) PCT)**

3. The subject-matter of any of claims **1-3, 10-12, 16-23, 29** and **31** is industrially applicable.

**GENERAL COMMENTS**

4. The description, in particular the definition of the material and/or the method according to the invention on pages 1 to 4, is not in conformity with the claims, as required by Rule 5.1(a)(iii) PCT.
5. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents **D1** to **D4** is not mentioned in the description, nor are these documents identified therein.
6. The definition of the problem underlying the invention should be presented in the description in such terms that its solution can be better understood in view of the disclosure of **D5** or **D3** (Rule 5.1 (a) (iii) PCT).
7. The expression "all of which are hereby incorporated by reference" should be deleted on page 16, lines 120-21, because the matter disclosed in **D20, D21, D22** and **D23** is not essential to satisfy the requirements of Article 5 PCT.
8. Independent claims **1** and **18** are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document **D5** or **D3**) being placed in the preamble (Rule 6.3 (b) (I) PCT) and with the remaining features being included in the characterising part (Rule 6.3 (b) (ii) PCT).
9. According to the requirement of Rule 6.1 (b) PCT, the claims shall be numbered consecutively.

This requirement is not met because there are claims **1-3, 10-12, 16-23, 29** and **31** on file, while claims **4-9, 13-15, 24-28** and **30** have been cancelled.



## WIDE AREA FASTENER LAMINATES FOR FLOORING AND OTHER SURFACES

### BACKGROUND

5 This invention relates to touch fastener laminates, such as laminates having either hooks or loops, for securing flooring and other surfaces over wide areas.

The potential usefulness of hook and loop fastening systems to secure finish materials to wide area surfaces was recognized long ago. For example, German Registered Utility Model <sup>DE-u-7029524</sup> ~~DE-42708~~, May 8, 1970, to Velcro France, suggested the fastening of flexible and rigid finishing materials to walls, floors and ceilings. Development of a tool to prevent premature engagement of the hook and loop fasteners when positioning a rigid member on a rigid surface was also known, see U.S. Patent 3,475,810, to Velcro, Inc. For attaching carpets, it was proposed in 1979 in British Patent 1,546,901 to secure long loops to a light fabric by deep needle punching and to attach that fabric to the surface of an underlayment of hair felt or resilient foam. Over the years, others have focused on the same potential for hook and loop fasteners for wide surfaces, see e.g. U.S. 3,817,015; 4,649,069; 4,744,189; 4,810,546; 4,822,658; 4,974,384; 5,042,221; 5,060,443; DE 4228597 (published application), and 5,191,692; 5,482,755; 6,298,624; 6,306,477 and 6,460,303.

15 Despite this, little commercial use has been made of hook and loop fastening to secure finish materials on wide surfaces, due to lack of hook and loop fasteners of appropriate function and cost.

### SUMMARY OF THE INVENTION

25 One aspect of the invention features a material for covering a surface of a home or building. The material is in the form of a flexible laminate having a fastening side comprising a sheet-form fastener component, and an opposite side formed by a sheet of paper laminated to the fastener component to increase the dimensional stability of the fastener component for covering and fastening over a wide area.

30 Empf.zeit: 15/07/2004 20:10

Empf.nr.: 926 P.011

**WHAT IS CLAIMED IS:**

1. (amended): A material (100) for covering a wide, rigid surface (1) of a home or building, the material being in the form of a flexible laminate having a fastening side comprising a sheet-form fastener component with hook-engageable loops defined by a knit or non-woven web material (12) having a basis weight of less than about 4 ounces per square yard (136 grams per square meter), and an opposite side formed by a sheet of paper (9) laminated to the fastener component, such that the laminate has significantly greater stiffness in the plane of the laminate than the knit or non-woven web material without the sheet of paper, yet is sufficiently flexible to be rolled up for storage and transport to increase the dimensional stability of the fastener component for covering and fastening over a wide area.

2. (amended): The material (100) of claim 1 wherein the sheet-form fastener component (12) is in a laterally stretched condition as laminated to the paper (9).

3. (amended): The material (100) of claim 1 or 2 wherein the paper (9) has a lateral stiffness at least as great as that of 85 pound Kraft paper.

4-9. (canceled)

10. (amended): The material (100) of claim [[9]] 1 wherein the web material comprises a non-woven web (12) of entangled fibers, the fibers forming a sheet-form web body stabilized in a condition of at least about 50 percent areal stretch.

11. (amended): The material (100) of claim [[9]] 1 wherein the web material (12) comprises a non-woven web of entangled fibers, the fibers forming a sheet-form web body stabilized in a condition of at least about 20 percent areal stretch, in which hook-engageable loops extend in clusters from tightened entanglements within the web body,



the entanglements being joined together by straightened fibers, ~~the product having a basis weight of less than about 4 ounces per square yard and~~ at least some of the fibers having a fiber denier of less than 3.

5           12 (amended): The material (100) of claim ~~[[9]]~~ 1 wherein the web material (12) comprises a non-woven web of entangled fibers and includes a binder resin anchoring hook-engageable fibers or yarns and constituting between about 20 percent and 40 percent of the weight of the material.

10           13-15. (canceled)

          16. (amended): The material (100) of any of the above claims in roll form, with the fastening side directed inwardly.

15           17. (amended): The material (100) of any of the above claims wherein the paper (9) has an exposed surface suitable for printing or writing thereupon.

          18. (amended): A method of securing an object (2,5,7) over a broad, rigid surface (1) of a home or building, the method comprising  
20           ~~permanently securing~~ placing a primary female touch fastening material ~~to~~ against the broad surface, the material being in the form of a flexible laminate (100) having a fastening side comprising a sheet-form fastener component with hook-engageable loops defined by a knit or non-woven web material (12) having a basis weight of less than about 4 ounces per square yard (136 grams per square meter), and an  
25           opposite side formed by a sheet of paper (9) laminated to the fastener component to increase the dimensional stability of the fastener component;

          providing a complementary hook fastener component (16) on the object to be secured; and then

placing the object against the ~~primary~~ female touch fastening material to releasably secure the object in place.

19. (amended): The method of claim 18 wherein the broad surface (1) is a subfloor, and the object is a discrete piece of flooring to be secured to the subfloor.

20. (amended): The method of claim 19 wherein the ~~sheet-form fastener component~~ female touch fastening material and the complementary hook fastener component ~~[[,]]~~ (16) are selected to provide a backlash between adjacent pieces of flooring (2,5,7), when one of the adjacent pieces is subjected to a separating load of 10 pounds (44 Newtons), of less than about 0.020 inch (0.5 millimeter), preferably less than about 0.015 inch (0.4 millimeter).

21. (amended): The method of claim 20 wherein the backlash is at least 0.001 inch (0.025 millimeter).

22. (amended): The method of any of claims 18 to 21 wherein the ~~sheet-form fastener component~~ female touch fastening material is in a laterally stretched condition as laminated to the paper (9).

23. (amended): The method of any of claims 18 to 22 wherein the paper (9) has a lateral stiffness at least as great as that of 85 pound Kraft paper.

24-28. (canceled)

29. (amended): The method of claim ~~[[28]]~~ 18 wherein the web material (12) comprises a non-woven web of entangled fibers and includes a binder resin anchoring hook-engageable fibers or yarns and constituting between about 20 percent and 40 percent of the weight of the web material.

30. (canceled)

31. (amended): The method of any of claims 18 to 30 including unrolling the  
5 ~~primary female~~ touch fastening material directly onto the broad surface (1).

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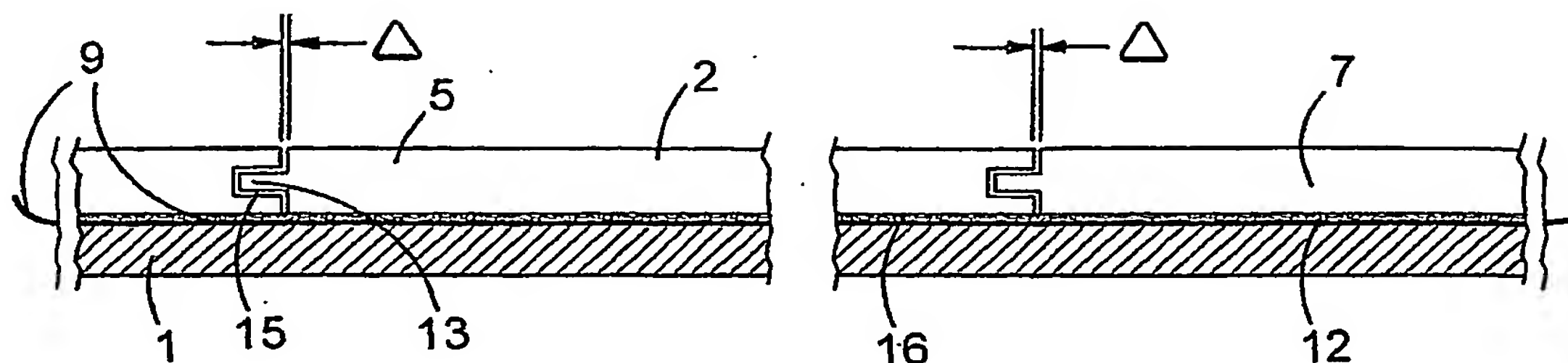


FIG. 1

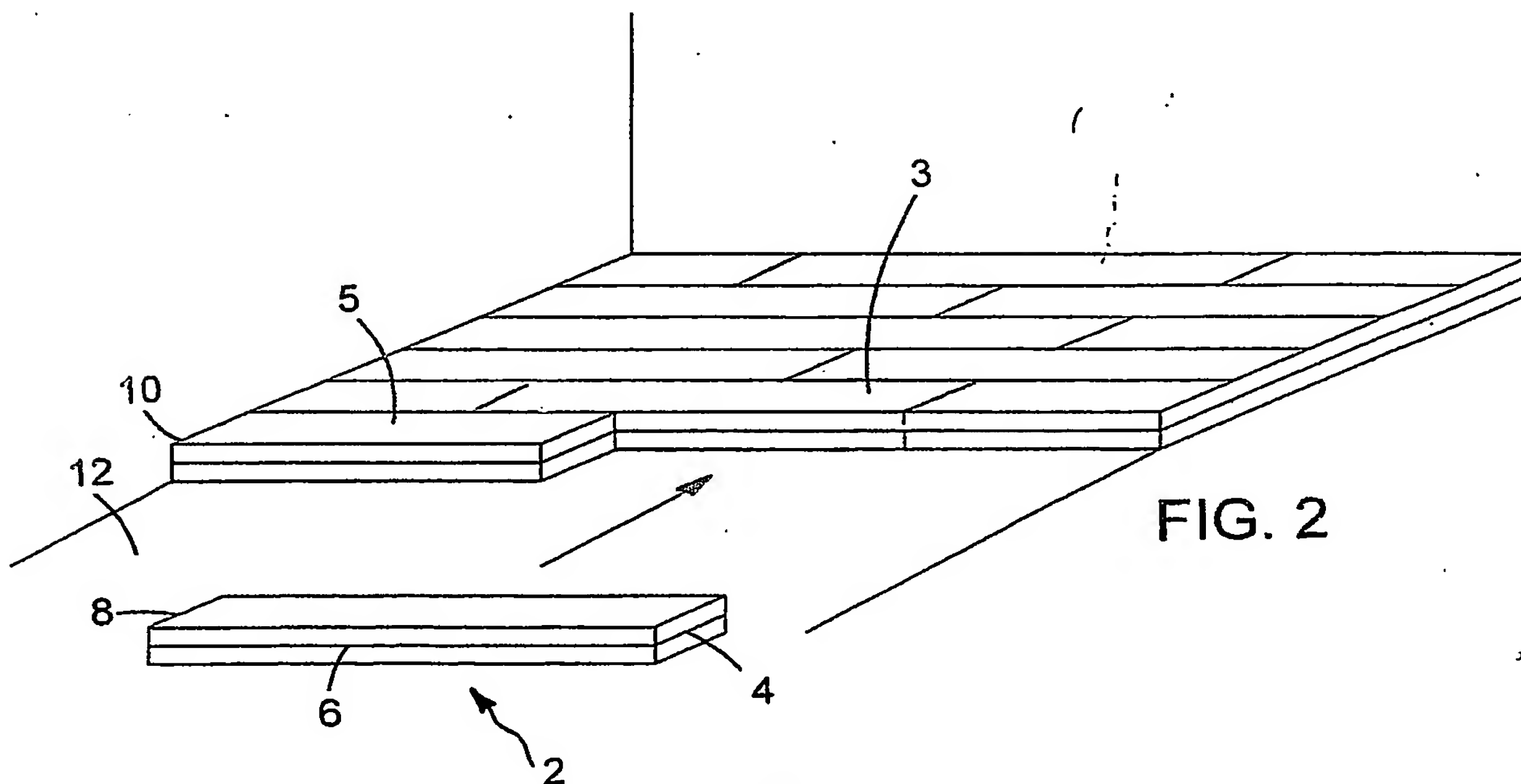


FIG. 2

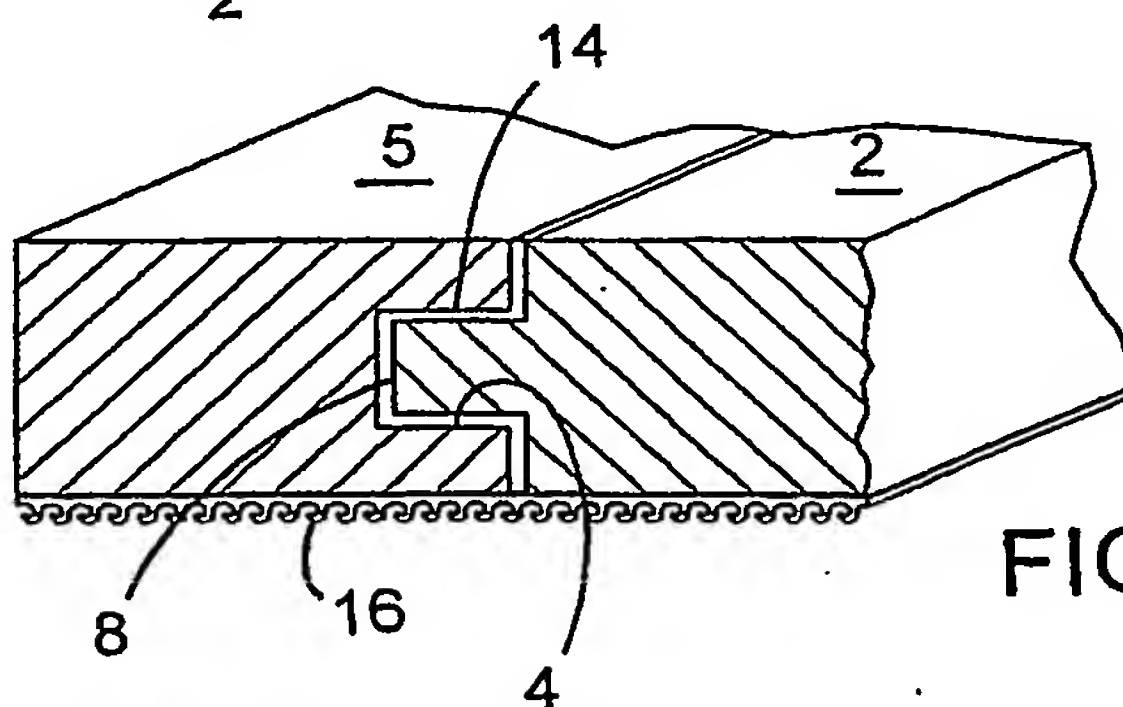


FIG. 3

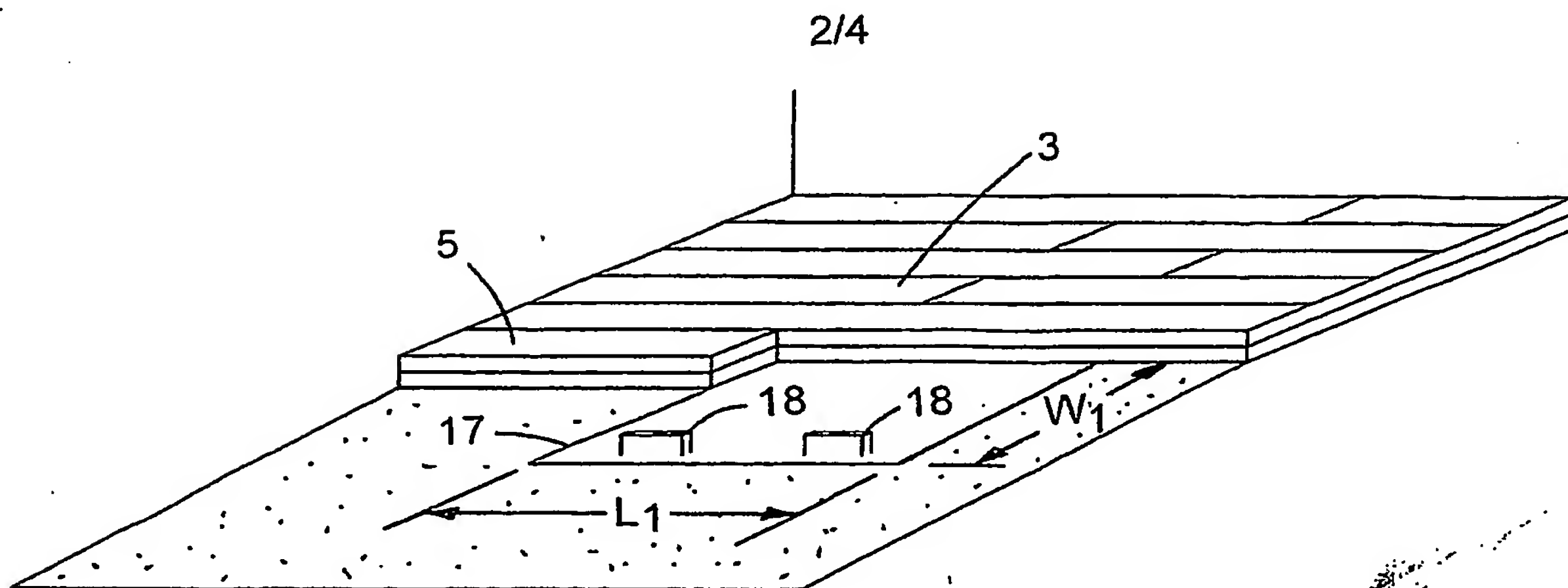


FIG. 4

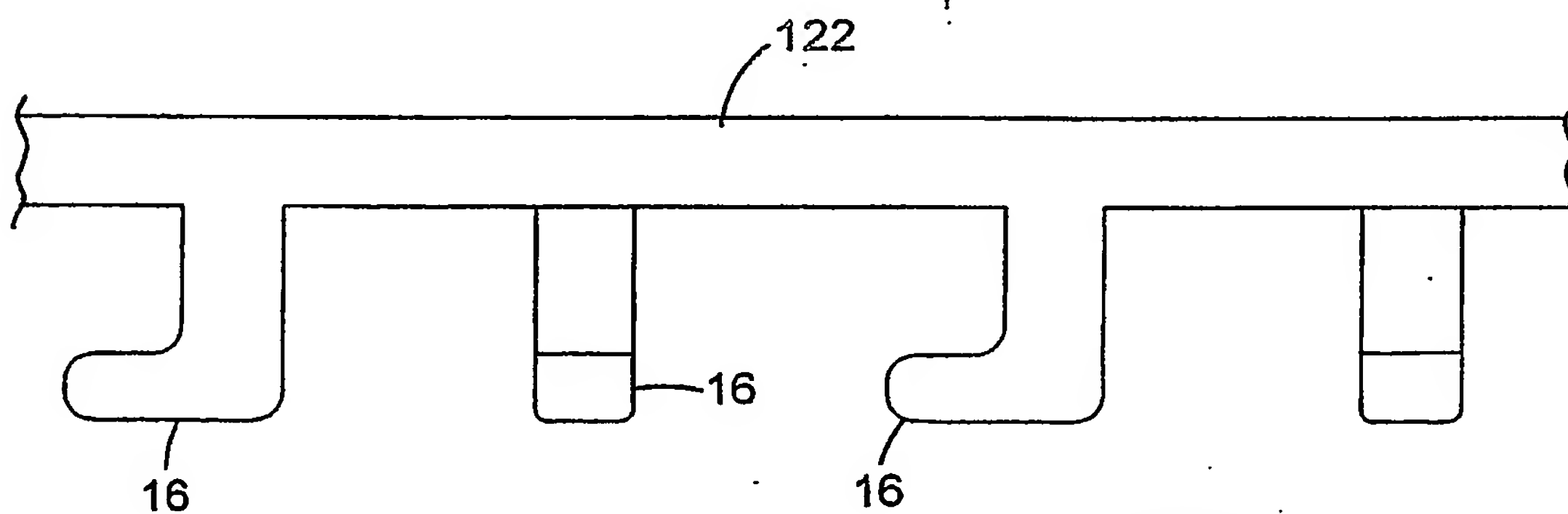


FIG. 5

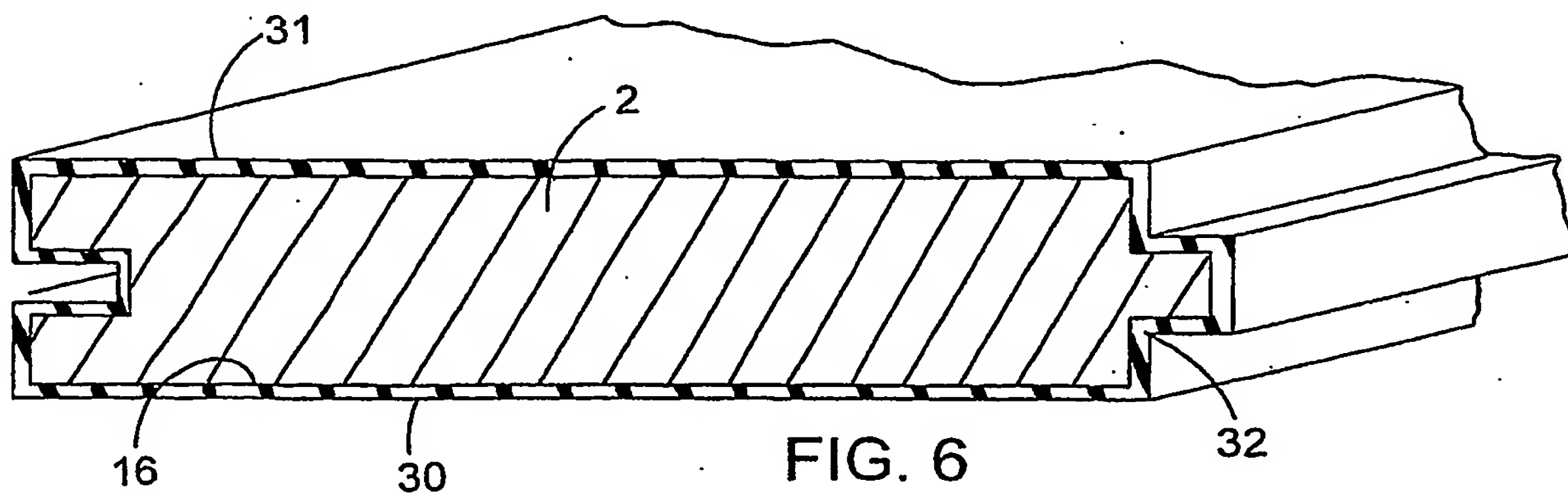


FIG. 6

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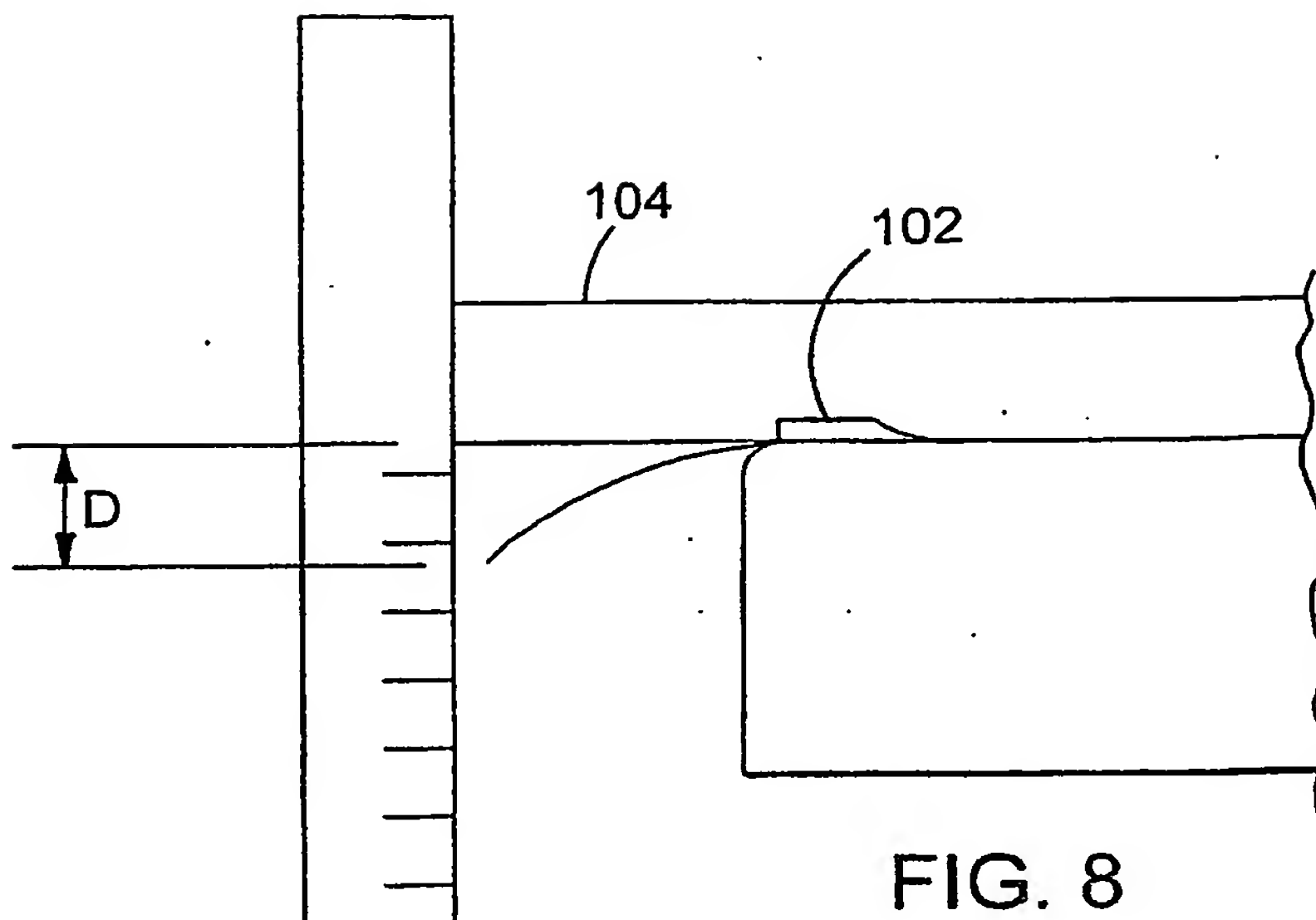


FIG. 8

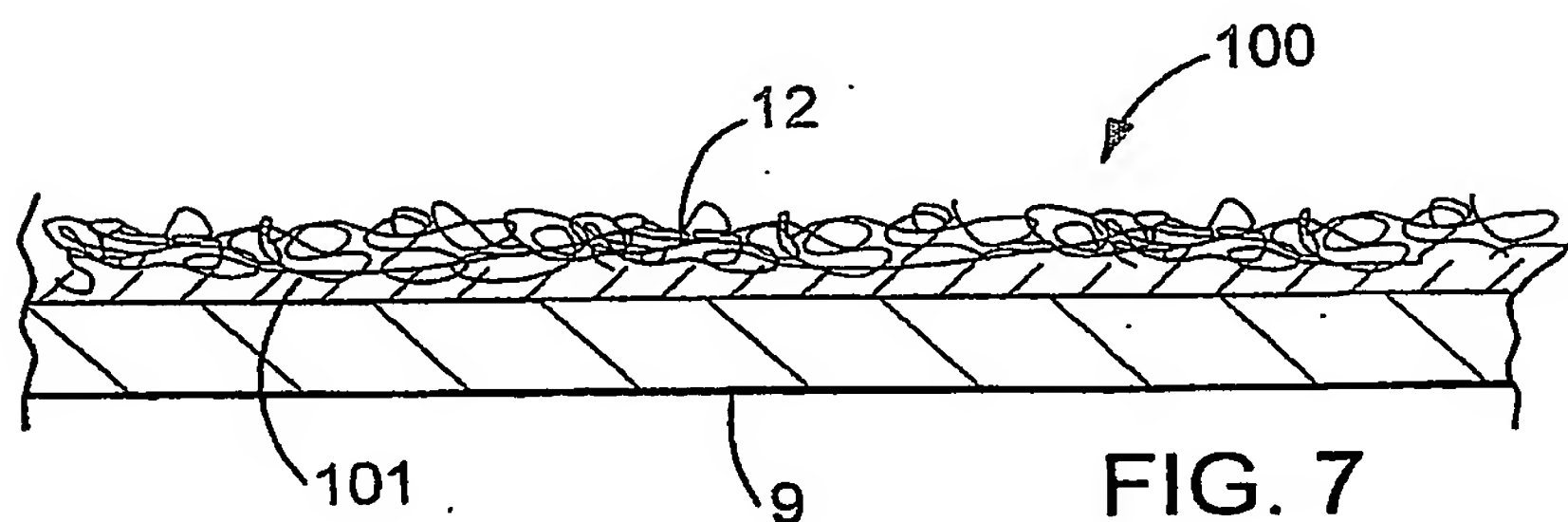


FIG. 7

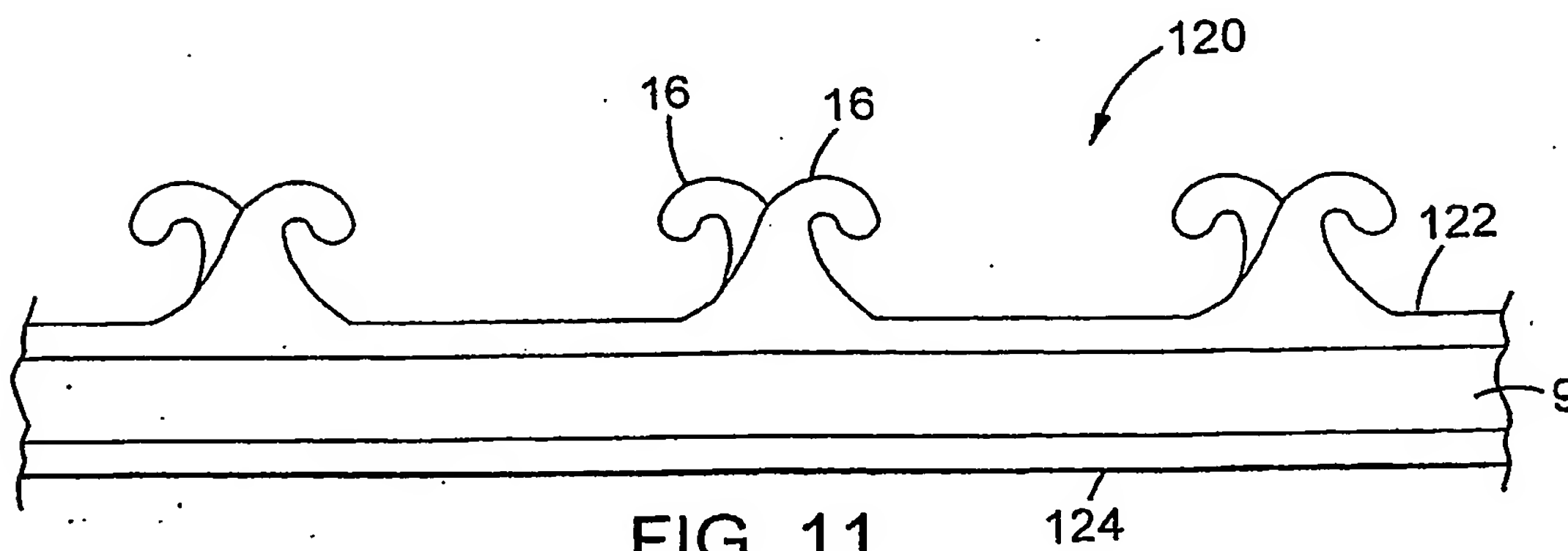


FIG. 11



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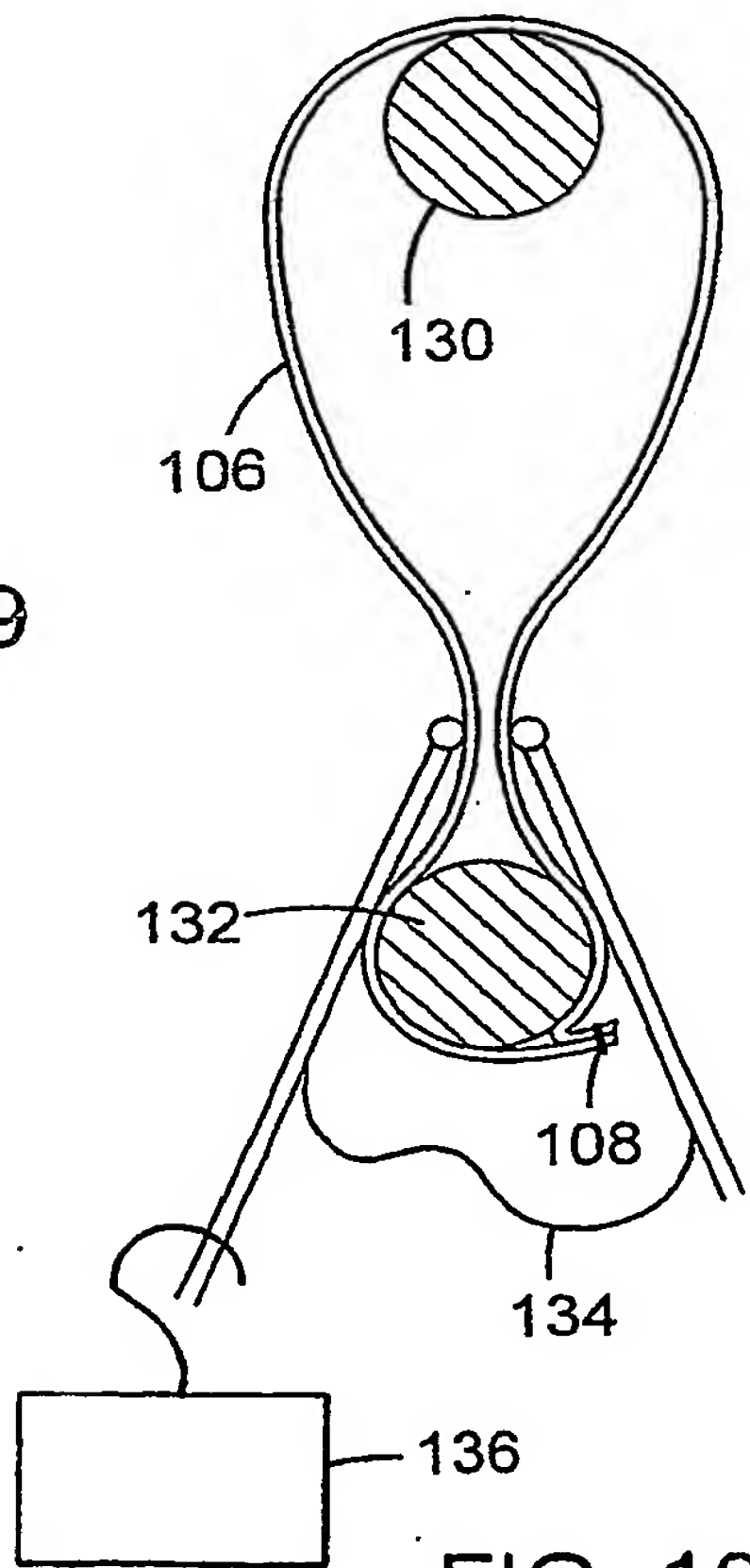
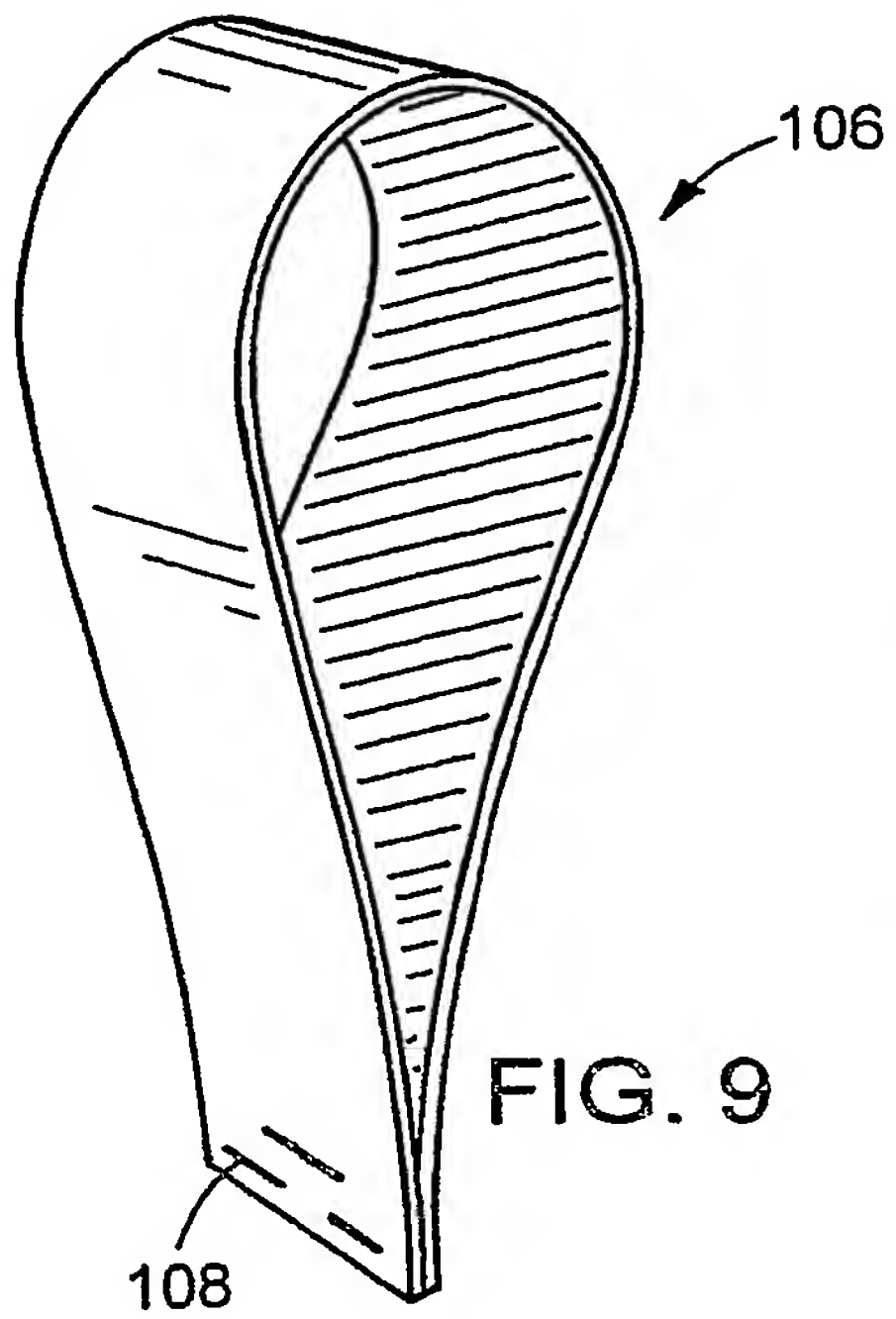


FIG. 10